CLAIMS

1.	A reactor	comprising
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- a chamber having an inlet and an outlet, wherein said inlet is to receive a fluid and said outlet is to output said fluid;
 - a partition housed in said chamber, wherein said partition includes a plurality of perforations to segment said fluid; and
 - a conductor coupled to said chamber; wherein said conductor is to generate a capacitance between said conductor and said partition to vibrate said partition.

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- 2. The reactor as recited in claim 1, wherein said partition and said conductor are coupled to a power source and wherein said capacitance is variable.
- 3. The reactor as recited in claim 2, further comprising a support coupled to said conductor, wherein said support is to prevent said conductor from vibrating.
 - 4. The reactor as recited in claim 3, wherein said partition is insulated to prevent an electrical disruption in the fluid.
- 5. The reactor as recited in claim 4, wherein said conductor is insulated to prevent an electrical disruption to said reactor.
 - 6. The reactor as recited in claim 2, wherein said partition is configured to follow a vibrational pattern to prevent a back flow of said fluid.

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7. The reactor as recited in claim 6, wherein said perforations have a diameter of about ten times a diameter of one of a group consisting of a molecule and cell in said fluid.

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8. The reactor as recited in claim 7, wherein said inlet includes a plurality of openings to allow said fluid to enter said chamber in a plurality of layered streams.

- 9. The reactor as recited in claim 3, further comprising a heat exchange channel formed in said support, wherein said heat exchange channel is to receive a flow of coolant to remove heat from said chamber.
- 5 10. The reactor as recited in claim 9, further comprising a sensor provided in said support to measure a temperature of said fluid in said chamber.
 - 11. The reactor as recited in claim 9, further comprising a sensor to measure a pressure in said chamber.
- 12. A method of reacting a fluid comprising:

receiving the fluid in a chamber;

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separating said fluid into a plurality of fluid segments,

vibrating said fluid, wherein said separating and said vibrating lower a diffusion distance of said fluid; and

outputting said fluid from said chamber.

- 13. The method of reacting as recited in claim 12, wherein said fluid is separated when said fluid flows through a partition having a plurality of perforations.
- 14. The method of reacting as recited in claim 13, wherein said vibrating comprises:

providing a conductor coupled to said chamber; and generating a capacitance between said conductor and said partition.

- 15. The method of reacting as recited in claim 14, wherein said fluid is received in layered streams.
- 16. The method of reacting as recited in claim 15, wherein each of said plurality of perforations is about ten times said diameter of one of a group consisting of a molecule and cell in said fluid.

- 17. The method of reacting as recited in claim 12, further comprising removing heat from said chamber.
- 18. The method of reacting as recited in claim 17, wherein said removing 5 comprises:

providing a heat exchange channel coupled to said chamber; and receiving a flow of coolant into said heat exchange channel.

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